REGIONAL HEADQUARTERS ADMINISTRATION BUILDING
UPSTAIRS REMODEL PROJECT
MONTANA FISH, WILDLIFE AND PARKS
MISSOULA, MT. 59804

FWP PROJECT # 7079146

Technical Specifications

SECTION 011000 - SUMMARY

PART 1 - GENERAL

1.1 SUMMARY OF WORK

A. Project: Regional Headquarters Administration Building, Upstairs Re-model Project

B. Owner: Montana Fish Wildlife and Parks

C. Architect: WRN Architects

D. Contractor: To be awarded on a competitive bid basis

E. The Work consists of the re-model and re-utilization of existing space presently used as a resource library

F. Owner-Furnished Items: The following products will be furnished by Owner and shall be installed by Contractor as part of the Work:

1. There are no owner specified items.

G. Work Under Other Contracts:

1. This project shall begin at the conclusion of a mechanical retrofit that will occur in this and adjacent spaces. The contractor shall not begin until the conclusion of work and the vacation of the space by prior contractor(s).

1.2 WORK RESTRICTIONS

A. Contractor's Use of Premises: During construction, Contractor will have limited use of site as indicated in plans. Contractor's use of premises is limited only by Owner's right to perform work or employ other contractors on portions of Project and as follows:

1. Owner will occupy premises during construction. Perform construction only during normal working hours (8 AM to 5 PM Monday thru Friday, other than holidays), or by permission of office and/or project manager. Contractor will obtain access code for parking lot gate and building entrance from office manager. Clean up work areas and return to a useable condition at the end of each work period.

END OF SECTION 011000

SECTION 013000 - ADMINISTRATIVE REQUIREMENTS

PART 1 - GENERAL

1.1 PROJECT MANAGEMENT AND COORDINATION

A. Coordinate construction to ensure efficient and orderly installation of each part of the Work.

B. Schedule and conduct progress meetings at Project site at biweekly intervals. Notify Owner and Architect of meeting dates and times. Require attendance of each subcontractor or other entity concerned with current progress or involved with planning or coordination of future activities.

1. Architect will record minutes and distribute to everyone concerned, including Project Manager and Office Manager.

1.2 SUBMITTAL PROCEDURES

A. Coordinate each submittal with fabrication, purchasing, testing, delivery, other submittals, and related activities that require sequential activity.

1. No extension of the Contract Time will be authorized because of failure to transmit submittals enough in advance of the Work to permit processing, including re-submittals. Submit three copies of each submittal. Architect will return one copy to contractor.
2. Architect will return submittals, without review**,** received from sources other than Contractor.

B. Place a permanent label or title block on each submittal for identification. Provide a space approximately 6 X 8 inches on label or beside title block to record Contractor's review and approval markings and action taken by Architect. Include the following information on the label:

1. Project name.
2. Date.
3. Name and address of Contractor.
4. Name and address of subcontractor or supplier.
5. Number and title of appropriate Specification Section.

C. Identify deviations from the Contract Documents on submittals.

D. Contractor's Construction Schedule Submittal Procedure: Submit [**two**] <**Insert number**> copies of schedule within <**Insert number**> days after date established for Commencement of the Work.

PART 2 - PRODUCTS

2.1 ACTION SUBMITTALS

A. Product Data: Mark each copy to show applicable products and options. Include the following:

1. Manufacturer's written recommendations, product specifications, and installation instructions.
2. Wiring diagrams showing factory-installed wiring.
3. Printed performance curves and operational range diagrams.
4. Testing by recognized testing agency.
5. Compliance with specified standards and requirements.

B. Shop Drawings: Prepare Project-specific information, drawn accurately to scale. Do not base Shop Drawings on reproductions of the Contract Documents or standard printed data. Submit on sheets at least 8-1/2 by 11 inches but no larger than 24 by 36 inches Include the following:

1. Dimensions and identification of products.
2. Fabrication and installation drawings and roughing-in and setting diagrams.
3. Wiring diagrams showing field-installed wiring.
4. Notation of coordination requirements.
5. Notation of dimensions established by field measurement.

C. Samples: Submit Samples for review of kind, color, pattern, and texture and for a comparison of these characteristics between submittal and actual component as delivered and installed. Include name of manufacturer and product name on label.

1. If variation is inherent in material or product, submit at least three sets of paired units that show variations.

2.2 INFORMATION SUBMITTALS

A. Qualification Data: Include lists of completed projects with project names and addresses, names and addresses of architects and owners, and other information specified.

B. Product Certificates: Prepare written statements on manufacturer's letterhead certifying that product complies with requirements in the Contract Documents.

2.3 DELEGATED DESIGN

A. Performance and Design Criteria: Where professional design services or certifications by a design professional are specifically required of Contractor by the Contract Documents, provide products and systems complying with specific performance and design criteria indicated.

1. If criteria indicated are not sufficient to perform services or certification required, submit a written request for additional information to Architect.

2.4 CONTRACTOR'S CONSTRUCTION SCHEDULE

A. Submit a comprehensive, fully developed schedule within 10 days of date established for the Notice to Proceed. Preparation: Indicate each significant construction activity separately. Identify first workday of each week with a continuous vertical line.

B. Preparation: Indicate each significant construction activity separately. Identify first workday of each week.

PART 3 - EXECUTION

3.1 SUBMITTAL REVIEW

A. Review each submittal and check for coordination with other Work of the Contract and for compliance with the Contract Documents. Note corrections and field dimensions. Mark with approval stamp before submitting to Architect.

B. Architect will review each action submittal, make marks to indicate corrections or modifications required, stamp and mark as appropriate to indicate action taken, and return copies less those retained.

3.2 CONTRACTOR'S CONSTRUCTION SCHEDULE

A. Distribute copies of approved schedule to Owner, Architect, subcontractors, testing and inspecting agencies, and parties identified by Contractor with a need-to-know schedule responsibility. When revisions are made, distribute updated schedules to the same parties.

B. Updating: At appropriate intervals, update schedule to reflect actual construction progress and activities. Issue schedule one week before each regularly scheduled progress meeting.

1. As the Work progresses, indicate Actual Completion percentage for each activity.

END OF SECTION 013000

SECTION 015000 - TEMPORARY FACILITIES AND CONTROLS

PART 1 - GENERAL

1.1 SECTION REQUIREMENTS

A. Use Charges: Cost or use charges for temporary facilities shall be included in the Contract Sum.

B. Use water and electric power from Owner's existing system without metering and without payment of use charges as authorized by office manager. Location of available water and power to be identified by office manager. Electrical Service: Comply with NEMA, NECA, and UL standards and regulations for temporary electric service. Install service to comply with NFPA 70.

C. Electrical Service: Comply with NEMA, NECA, and UL standards and regulations for temporary electric service where required. Install service to comply with NFPA 70.

PART 2 - PRODUCTS

2.1 EQUIPMENT

A. Heating Equipment: No auxiliary equipment will be needed during this project.

PART 3 - EXECUTION

3.1 TEMPORARY UTILITIES

A. General: Arrange with utility company, Owner, and existing users for time when service can be interrupted, if necessary, to make connections for temporary services.

B. Sanitary Facilities: Provide temporary toilets, wash facilities, and drinking-water fixtures. Comply with regulations and health codes for type, number, location, operation, and maintenance of fixtures and facilities.

C. Sanitary Facilities: Use of Owner's existing toilet facilities will be permitted, as long as facilities are cleaned and maintained in a condition acceptable to Owner. At Substantial Completion, restore these facilities to condition existing before initial use.

D. Provide temporary lighting with local switching that provides adequate illumination for construction operations, observations, inspections, and traffic conditions.

3.2 TEMPORARY SUPPORT FACILITIES

A. Contractor may use subject space for field office. Construction material to be stored for a minimum time on site in the adjacent parking area. Provide waste-collection containers in sizes adequate to handle waste from construction operations. Collect waste daily and, when containers are full, legally dispose of waste off-site. Comply with requirements of authorities having jurisdiction.

B. Provide waste-collection containers in sizes adequate to handle waste from construction operations. Collect waste daily from subject space and, when containers are full, legally dispose of waste off-site. Comply with requirements of authorities having jurisdiction.

1. Contractor is to deliver any recyclable material to the nearest facility unless such recycling is determined to be cost prohibitive. All remnant material is to be re-used where possible.

3.3 TEMPORARY SECURITY AND PROTECTION FACILITIES

A. Provide temporary environmental protection, operate temporary facilities, and conduct construction in ways and by methods that comply with environmental regulations and that minimize possible air, waterway, and subsoil contamination or pollution or other undesirable effects.

B. Install and maintain dust, debris, fume and odor protection from existing workspaces. Insure that furnace filters, etc. are keep free of construction contaminents. Comply with requirements of authorities having jurisdiction for erecting structurally adequate barricades, including warning signs and lighting.

C. Furnish and install site enclosure fence in a manner that will prevent people and animals from easily entering site except by entrance gates.

D. Comply with requirements of authorities having jurisdiction for erecting structurally adequate barricades, including warning signs and lighting.

E. Install and maintain temporary fire-protection facilities. Comply with NFPA 241.

3.4 TERMINATION AND REMOVAL

A. Remove temporary facilities and controls no later than Substantial Completion. Personnel remaining after Substantial Completion will be permitted to use permanent facilities, under conditions acceptable to Owner.

END OF SECTION 015000

SECTION 016000 - PRODUCT REQUIREMENTS

PART 1 - GENERAL

1.1 SECTION REQUIREMENTS

A. The term "product" includes the terms "material," "equipment," "system," and terms of similar intent.

B. Product Substitutions: Substitutions include changes in products, materials, equipment, and methods of construction from those required by the Contract Documents and proposed by Contractor after award of the Contract.

1. Submit three copies of each request for product substitution.
2. Submit requests within ten days after the Notice of Award.
3. Do not submit unapproved substitutions on Shop Drawings or other submittals.
4. Identify product to be replaced and show compliance with requirements for substitutions. Include a detailed comparison of significant qualities of proposed substitution with those of the Work specified, a list of changes needed to other parts of the Work required to accommodate proposed substitution, and any proposed changes in the Contract Sum or the Contract Time should the substitution be accepted.
5. Architect will review the proposed substitution and notify Contractor of its acceptance or rejection.

C. Comparable Product Requests:

1. Submit three copies of each request for comparable product. Do not submit unapproved products on Shop Drawings or other submittals.
2. Identify product to be replaced and show compliance with requirements for comparable product requests. Include a detailed comparison of significant qualities of proposed substitution with those of the Work specified.
3. Architect will review the proposed product and notify Contractor of its acceptance or rejection.

D. Deliver, store, and handle products using means and methods that will prevent damage, deterioration, and loss, including theft. Comply with manufacturer's written instructions.

1. Schedule delivery to minimize long-term storage at Project site and to prevent overcrowding of construction spaces.
2. Deliver products to Project site in manufacturer's original sealed container or packaging, complete with labels and instructions for handling, storing, unpacking, protecting, and installing.
3. Inspect products on delivery to ensure compliance with the Contract Documents and to ensure that products are undamaged and properly protected.
4. Store materials in a manner that will not endanger Project structure.
5. Store products that are subject to damage by the elements, under cover in a weathertight enclosure above ground, with ventilation adequate to prevent condensation.

E. Warranties specified in other Sections shall be in addition to, and run concurrent with, other warranties required by the Contract Documents. Manufacturer's disclaimers and limitations on product warranties do not relieve Contractor of obligations under requirements of the Contract Documents.

PART 2 - PRODUCTS

2.1 PRODUCT OPTIONS

A. Provide products that comply with the Contract Documents, are undamaged, and are new at the time of installation.

1. Provide products complete with accessories, trim, finish, and other devices and components needed for a complete installation and the intended use and effect.
2. Descriptive, performance, and reference standard requirements in the Specifications establish "salient characteristics" of products.

B. Product Selection Procedures:

1. Where Specifications name a single product or manufacturer, provide the item indicated that complies with requirements.
2. Where Specifications include a list of names of products or manufacturers, provide one of the items indicated that complies with requirements.
3. Where Specifications include a list of names of products or manufacturers, accompanied by the term "available products" or "available manufacturers," provide one of the named items that complies with requirements. Comply with provisions for "comparable product requests" for consideration of an unnamed product.
4. Where Specifications name a product as the "basis-of-design" and include a list of manufacturers, provide the named product. Comply with provisions for "comparable product requests" for consideration of an unnamed product by the other named manufacturers.
5. Where Specifications name a single product as the "basis-of-design" and no other manufacturers are named, provide the named product. Comply with provisions for "comparable product requests" for consideration of an unnamed product by another manufacturer.

C. Unless otherwise indicated, Architect will select color, pattern, and texture of each product from manufacturer's full range of options that includes both standard and premium items.

END OF SECTION 016000

SECTION 017000 - EXECUTION AND CLOSEOUT REQUIREMENTS

PART 1 - GENERAL

1.1 CLOSEOUT SUBMITTALS

A. Record Drawings: Maintain a set of prints of the Contract Drawings as Record Drawings. Mark to show actual installation where installation varies from that shown originally.

1. Identify and date each Record Drawing; include the designation "PROJECT RECORD DRAWING" in a prominent location.

B. Operation and Maintenance Data: Submit one copy of manual. Organize data into three-ring binders with identification on front and spine of each binder, and envelopes for folded drawings. Include the following:

1. Manufacturer's operation and maintenance documentation.
2. Maintenance and service schedules.
3. Maintenance service contracts.
4. Emergency instructions.
5. Spare parts list.
6. Wiring diagrams.
7. Copies of warranties.

PART 2 - EXECUTION

2.1 EXAMINATION AND PREPARATION

A. Examine substrates and conditions for compliance with manufacturer's written requirements including, but not limited to, surfaces that are sound, level, plumb, smooth, clean, and free of deleterious substances; substrates within installation tolerances; and application conditions within environmental limits. Proceed with installation only after unsatisfactory conditions have been corrected.

B. Before proceeding to lay out the Work, verify layout information shown on Drawings, in relation to property survey and existing benchmarks.

C. Take field measurements as required to fit the Work properly. Where fabricated products are to be fitted to other construction, verify dimensions by field measurement before fabrication and, when possible, allow for fitting and trimming during installation.

2.2 CUTTING AND PATCHING

A. Do not cut structural members or operational elements without prior written approval of Architect.

B. Where existing services/systems are required to be removed, relocated, or abandoned, bypass such services/systems before cutting to minimize interruption to occupied areas.

C. Patch with durable seams that are as invisible as possible. Provide materials and comply with installation requirements specified in other Sections.

2.3 INSTALLATION

A. Comply with manufacturer's written instructions for installation. Anchor each product securely in place, accurately located and aligned with other portions of the Work. Clean exposed surfaces and protect from damage.

B. Clean Project site and work areas daily, including common areas.

2.4 FINAL CLEANING

A. Complete the following cleaning operations before requesting inspection for certification of Substantial Completion:

1. Remove labels that are not permanent.
2. Clean transparent materials, including mirrors. Remove excess glazing compounds. Replace chipped or broken glass.
3. Clean exposed finishes to a dust-free condition, free of stains, films, and foreign substances. Sweep concrete floors broom clean.
4. Vacuum carpeted surfaces and wax resilient flooring.
5. Wipe surfaces of mechanical and electrical equipment. Remove excess lubrication. Clean plumbing fixtures. Clean light fixtures, lamps, globes, and reflectors.
6. Clean Project site, yard, and grounds, in areas disturbed by construction activities. Sweep paved areas; remove stains, spills, and foreign deposits. Rake grounds to a smooth, even-textured surface.

2.5 CLOSEOUT PROCEDURES

A. Substantial Completion: Before requesting Substantial Completion inspection, complete the following:

1. Prepare a list of items to be completed and corrected (punch list), the value of items on the list, and reasons why the Work is not complete.
2. Advise Owner of pending insurance changeover requirements.
3. Submit specific warranties, maintenance service agreements, and similar documents.
4. Obtain and submit releases permitting Owner unrestricted use of the Work and access to services and utilities. Include occupancy permits, operating certificates, and similar releases.
5. Submit Record Drawings, operation and maintenance manuals, and similar final record information..
6. Deliver tools, spare parts, extra materials, and similar items.
7. Make final changeover of permanent locks and deliver keys to Owner.
8. Complete startup testing of systems.

9. Remove temporary facilities and controls.
10. Submit changeover information related to Owner's occupancy, use, operation, and maintenance.
11. Complete final cleaning requirements, including touchup painting.
12. Touch up and otherwise repair and restore marred exposed finishes to eliminate visual defects.

B. Submit a written request for inspection for Substantial Completion. On receipt of request, Architect will proceed with inspection or advise Contractor of unfulfilled requirements. Architect will prepare the Certificate of Substantial Completion after inspection or will advise Contractor of items that must be completed or corrected before certificate will be issued.

C. Request inspection for Final Completion, once the following are complete:

1. Submit a copy of Substantial Completion inspection list stating that each item has been completed or otherwise resolved for acceptance.
2. Instruct Owner's personnel in operation, adjustment, and maintenance of products, equipment, and systems.

D. Request reinspection when the Work identified in previous inspections as incomplete is completed or corrected.

E. Submit a written request for final inspection for acceptance. On receipt of request, Architect will proceed with inspection or advise Contractor of unfulfilled requirements. Architect will prepare final Certificate for Payment after inspection or will advise Contractor of items that must be completed or corrected before certificate will be issued.

2.6 DEMONSTRATION AND TRAINING

A. Engage qualified instructors to instruct Owner's personnel to adjust, operate, and maintain systems, subsystems, and equipment not part of a system. Include a detailed review of the following:

1. Include instruction for basis of system design and operational requirements, review of documentation, emergency procedures, operations, adjustments, troubleshooting, maintenance, and repairs.

END OF SECTION 017000

SECTION 055200 - METAL RAILINGS

PART 1 - GENERAL

1.1 SECTION REQUIREMENTS

A. Structural Performance: Provide railings capable of withstanding structural loads required by ASCE 7.

B. Submittals: Shop Drawings and color charts showing the full range of colors available for finishes.

PART 2 - PRODUCTS

2.1 METALS.

A. Steel Plates, Shapes, and Bars: ASTM A 36/A 36M.

B. Steel Pipe: ASTM A 53, Schedule 40.

C. Steel Tubing: ASTM A 500 cold formed.

D. Brackets, Flanges, and Anchors: Cast or formed metal of same type of material and finish as supported rails, unless otherwise indicated.

2.2 FABRICATION

A. Assemble railing systems in shop to the greatest extent possible. Use connections that maintain structural value of joined pieces.

B. Form changes in direction of railing members by mitering at elbow bends and/or use of prefabricated fittings.

C. Fabricate railing systems and handrails for connecting members by welding

D. Provide manufacturer's standard wall brackets, flanges, miscellaneous fittings, and anchors to connect handrail and railing members to other construction.

E. Provide wall returns at ends of wall-mounted handrails.

2.3 FINISHES

A. Steel Railings: Powder coated, owner to select color.

PART 3 - EXECUTION

3.1 INSTALLATION

A. Fit exposed connections accurately together to form tight, hairline joints.

B. Set railings accurately in location, alignment, and elevation and free of rack.

C. Coat concealed surfaces of aluminum that will be in contact with cementitious materials or dissimilar metals, with a heavy coat of bituminous paint

D. Attach handrails to wall with wall brackets.

END OF SECTION 055200

SECTION 061000 - ROUGH CARPENTRY

PART 1 - GENERAL

1.1 SECTION REQUIREMENTS

Submittals: Model code evaluation reports for wood-preservative treated wood engineered wood products and metal framing anchors.

PART 2 - PRODUCTS

2.1 WOOD PRODUCTS, GENERAL

A. Lumber: Provide dressed lumber, S4S, marked with grade stamp of inspection agency.

B. Engineered Wood Products: Acceptable to authorities having jurisdiction and for which current model code research or evaluation reports exist that show compliance with building code in effect for Project.

2.2 TREATED MATERIALS

A. Preservative-Treated Materials: AWPA C2, except that lumber not in ground contact and not exposed to the weather may be treated according to AWPA C31 with inorganic boron.

1. Use treatment containing no arsenic or chromium.
2. Kiln-dry lumber after treatment to a maximum moisture content of 19 percent.
3. Mark lumber with treatment quality mark of an inspection agency approved by the ALSC Board of Review.

B. Provide preservative-treated materials for items indicated on Drawings. Fire-Retardant-Treated Materials: Comply with performance requirements in AWPA C20.

2.3 LUMBER

A. Dimension Lumber:

1. Maximum Moisture Content: 15 percent..
2. Non-Load-Bearing Interior Partitions: Construction or No. 2Western woods: WWPA.
3. Framing Other Than Non-Load-Bearing Partitions: Select Structural Hem-fir: WWPA.
4. Exposed Framing: Provide material hand-selected for uniformity of appearance and freedom from characteristics, on exposed surfaces and edges, that would impair finish appearance, including decay, honeycomb, knot-holes, shake, splits, torn grain, and wane.

a. Species: As specified for framing other than non-load bearing partitions.
b. Grade: Select Structural

2.4 ENGINEERED WOOD PRODUCTS

A. Engineered wood products with allowable design stresses, as published by manufacturer, that meet or exceed those indicated. Manufacturer's published values shall be demonstrated by comprehensive testing.

B. Laminated-Veneer Lumber: Manufactured with exterior-type adhesive complying with ASTM D 2559. Allowable design values determined according to ASTM D 5456.

1. Extreme Fiber Stress in Bending, Edgewise: 2900 psi for 12-inch nominal depth members.
2. Modulus of Elasticity, Edgewise: 2,000,000 psi.

2.5 PLYWOOD BACKING PANELS

A. Telephone and Electrical Equipment Backing Panels: Plywood, Exposure 1, C-D Plugged, fire-retardant treated, not less than 1/2 inch thick.

2.6 MISCELLANEOUS PRODUCTS

A. Fasteners: Size and type indicated. Where rough carpentry is exposed to weather, in ground contact, or in area of high relative humidity, provide fasteners with hot-dip zinc coating complying with ASTM A 153/A 153M.Power-Driven Fasteners: CABO NER-272.

1. Power-Driven Fasteners: CABO NER-272.
2. Bolts: Steel bolts complying with ASTM A 307, Grade A (ASTM F 568, Property Class 4.6); with ASTM A 563 (ASTM A 563M) hex nuts and, where indicated, flat washers.

B. Metal Framing Anchors: Structural capacity, type, and size indicated.

1. Use anchors made from hot-dip galvanized steel complying with ASTM A 653/A 653M, G60 coating designation for interior locations where stainless steel is not indicated.

2. Use anchors made from stainless steel complying with ASTM A 666, Type 304 for exterior locations and where indicated.

C. Sill-Sealer: Closed-cell neoprene foam, 1/4 inch thick.

PART 3 - EXECUTION

3.1 INSTALLATION

A. Set rough carpentry to required levels and lines, with members plumb, true to line, cut, and fitted. Locate nailers, blocking, and similar supports to comply with requirements for attaching other construction.

B. Securely attach rough carpentry to substrates, complying with the following:

1. CABO NER-272 for power-driven fasteners.
2. Published requirements of metal framing anchor manufacturer.
3. "Wood Structural Panel Roof Sheathing Nailing Schedule," in ICBO's Uniform Building Code.

END OF SECTION 061000

SECTION 061053 - MISCELLANEOUS ROUGH CARPENTRY

PART 1 - GENERAL

1.1 SECTION REQUIREMENTS

A. Submittals: Model code evaluation reports for treated wood.

PART 2 - PRODUCTS

2.1 WOOD PRODUCTS, GENERAL

A. Lumber: Provide dressed lumber, S4S, marked with grade stamp of inspection agency.

2.2 LUMBER

A. Dimension Lumber:

1. Maximum Moisture Content: 19 percent.
2. Interior Partition Framing: Construction, or No. 2 or better Western woods: WCLIB or WWPA.

B. Miscellaneous Lumber: Construction, or No. 2, 19 percent maximum moisture content of any species. Provide for nailers, blocking, and similar members.

2.3 FASTENERS

A. Fasteners: Size and type indicated. Where rough carpentry is exposed to weather, in ground contact, or in area of high relative humidity, provide fasteners with hot-dip zinc coating complying with ASTM A 153/A 153M.

1. Power-Driven Fasteners: CABO NER-272.

PART 3 - EXECUTION

3.1 INSTALLATION

A. Set miscellaneous rough carpentry to required levels and lines, with members plumb, true to line, cut, and fitted. Locate nailers, blocking, and similar supports to comply with requirements for attaching other construction.

B. Securely attach miscellaneous rough carpentry to substrates, complying with the following:

1. CABO NER-272 for power-driven fasteners.
2. Table 2304.9.1, "Fastening Schedule in 2009 International Building Code.

END OF SECTION 061053

SECTION 062000 - FINISH CARPENTRY

PART 1 - GENERAL

1.1 SECTION REQUIREMENTS

A. Submittals: Samples for hardwood trim.

PART 2 - PRODUCTS

2.1 MATERIALS, GENERAL

A. Lumber: DOC PS 20 and grading rules of inspection agencies certified by American Lumber Standards Committee Board of Review.

B. Exterior Lumber Trim: Texture to match exist, Grade B, redwood Grade A or western red cedar.

1. Maximum Moisture Content: 19 percent.

C. Lumber Siding: Kiln-dried, western red cedar.

2.2 STANDING AND RUNNING TRIM

A. Interior Hardwood Lumber Trim: Clear, kiln-dried, red oak.

2.3 MISCELLANEOUS MATERIALS

A. Fasteners for Exterior Finish Carpentry: hot-dip galvanized steel

B. Glue: Aliphatic-resin, polyurethane, or resorcinol wood glue recommended by manufacturer.

1. Use waterproof resorcinol glue for exterior applications.

PART 3 - EXECUTION

3.1 INSTALLATION

A. Condition finish carpentry in installation areas for 24 hours before installing.

B. Prime and backprime lumber for painted finish exposed on the exterior.

C. Install finish carpentry level, plumb, true, and aligned with adjacent materials. Scribe and cut to fit adjoining work. Refinish and seal cuts.

D. Install standing and running trim with minimum number of joints practical, using full-length pieces from maximum lengths of lumber available. Stagger joints in adjacent and related trim. Cope at returns and miter at corners.

E. Nail siding at each stud. Do not allow nails to penetrate more than one thickness of siding, unless otherwise recommended by siding manufacturer. Seal joints at inside and outside corners and at trim locations.

END OF SECTION 062000

SECTION 064013 - EXTERIOR ARCHITECTURAL WOODWORK

PART 1 - GENERAL

1.1 SECTION REQUIREMENTS

A. Submittals: Shop Drawings.

B. Quality Standard: Architectural Woodwork Institute's "Architectural Woodwork Quality Standards."

C. Forest Certification: Provide woodwork produced from wood obtained from forests certified by an FSC-accredited certification body to comply with FSC STD-01-001, "FSC Principles and Criteria for Forest Stewardship."

PART 2 - PRODUCTS

2.1 MATERIALS

A. Hardboard: AHA A135.4.

B. Softwood Plywood: DOC PS 1.

C. Preservative Treatment: Comply with WDMA I.S.4 for items indicated to receive water-repellent preservative treatment.

D. Fasteners for Exterior Woodwork:

1. Nails: hot-dip galvanized.
2. Screws: hot-dip galvanized.

2.2 EXTERIOR WOODWORK

A. Wood Moisture Content: 9 to 15 percent.

B. Complete fabrication to maximum extent possible before shipment to Project site. Disassemble components only as necessary for shipment and installation. Where necessary for fitting at site, provide ample allowance for scribing, trimming, and fitting.

C. Backout or groove backs of flat trim members and kerf backs of other wide, flat members, except for members with ends exposed in finished work.

D. Exterior Standing and Running Trim: Cedar to match existing.

E. Exterior Frames and Jambs: Economy grade, made from any closed-grain hardwood.

F. Shop prime woodwork for opaque finish with one coat of specified wood primer.

G. Shop seal woodwork for transparent finish with stain (if required), other required pretreatments, and first coat of specified finish.

H. Backprime with one coat of sealer or primer, compatible with finish coats. Apply two coats to surfaces installed in contact with concrete or masonry and to end-grain surfaces.

PART 3 - EXECUTION

3.1 INSTALLATION

A. Install woodwork to comply with referenced quality standard for grade specified.

B. Install woodwork true and straight with no distortions. Shim as required with concealed shims. Install level and plumb to a tolerance of 1/8 inch in 96 inches.

C. Scribe and cut woodwork to fit adjoining work, and refinish cut surfaces or repair damaged finish at cuts.

D. Anchor woodwork to anchors or blocking built in or directly attached to substrates. Fasten with countersunk concealed fasteners and blind nailing. Use fine finishing nails for exposed nailing, countersunk and filled flush with woodwork.

E. Standing and Running Trim: Install with minimum number of joints possible, using full-length pieces (from maximum length of lumber available) to greatest extent possible. Do not use pieces less than 36 inches long, except where shorter single-length pieces are necessary. Scarf running joints and stagger in adjacent and related members.

END OF SECTION 064013

SECTION 064023 - INTERIOR ARCHITECTURAL WOODWORK

PART 1 - GENERAL

1.1 SECTION REQUIREMENTS

A. Quality Standard: Architectural Woodwork Institute's "Architectural Woodwork Quality Standards."

B. Forest Certification: Provide woodwork produced from wood obtained from forests certified by an FSC-accredited certification body to comply with FSC STD-01-001, "FSC Principles and Criteria for Forest Stewardship."

C. Environmental Limitations: Do not deliver or install woodwork until building is enclosed, wet work is completed, and HVAC system is operating.

PART 2 - PRODUCTS

2.1 MATERIALS

A. Hardboard: AHA A135.4.

B. Medium-Density Fiberboard: ANSI A208.2, Grade 130, made with binder containing no urea formaldehyde.

C. Softwood Plywood: DOC PS 1.

D. Hardwood Plywood and Face Veneers: HPVA HP-1, made with adhesive containing no urea formaldehyde.

E. Thermoset Decorative Panels: Comply with LMA SAT - 1.

F. High-Pressure Decorative Laminate: NEMA LD 3.

1. [Available]Products:

a. Wilsonart

b. Formica

2.2 CABINET HARDWARE AND ACCESSORY MATERIALS

A. Butt Hinges: 2-3/4-inch , 5-knuckle steel hinges made from 0.095-inch- thick metal, and as follows:

1. Semiconcealed Hinges for Flush Doors: BHMA A156.9, B01361, self-closing.

2. Semiconcealed Hinges for Overlay Doors: BHMA A156.9, B01521, self-closing.

B. Wire Pulls: Back mounted, solid metal, 4 inches long, 5/16 inch in diameter, 2-1/2 inches deep.

C. Adjustable Shelf Standards and Supports: BHMA A156.9, B04071; with shelf rests, B04081 .

D. Drawer Slides: BHMA A156.9, B05091.

1. Box Drawer Slides: Grade 1.

E. Drawer Locks: BHMA A156.11, E07041.

F. Exposed Hardware Finishes: Comply with BHMA A156.18 for BHMA code number indicated.

1. Finish: Verify.

G. Furring, Blocking, Shims, and Hanging Strips: or hardwood lumber, kiln dried to 15 percent moisture content.

2.3 INTERIOR WOODWORK

A. Complete fabrication to maximum extent possible before shipment to Project site. Disassemble components only as necessary for shipment and installation. Where necessary for fitting at site, provide ample allowance for scribing, trimming, and fitting.

B. Backout or groove backs of flat trim members and kerf backs of other wide, flat members, except for members with ends exposed in finished work.

C. Interior Standing and Running Trim for Transparent Finish: Premium grade, made from red oak, plain sawn.

D. Stairwork and Rails: Premium grade.

1. Wood Species for Transparent Finish: Red oak, plain sawn.

E. Interior Ornamental Work for Transparent Finish: Premium grade, made from red oak, plain sawn.

F. Wood Cabinets for Transparent Finish: Premium grade.

1. AWI Type of Cabinet Construction: Reveal overlay on face frame.
2. WI Construction Style: Style B, Face Frame.
3. WI Door and Drawer Front Style: Flush overlay.
4. Wood Species and Cut for Exposed Surfaces: Red oak, plain sawn or sliced.

G. Plastic-Laminate Cabinets: Premium grade.

1. Same as for Wood, see above.

H. Plastic-Laminate Countertops: Premium grade.

1. Laminate Grade: HGS for flat countertops.
2. Grain Direction: Parallel to cabinet fronts.
3. Edge Treatment: Lumber edge for transparent finish matching wood species and cut on cabinet surfaces.

2.4 SHOP FINISHING OF INTERIOR ARCHITECTURAL WOODWORK

A. Finishes: Same grades as items to be finished.

B. Finish architectural woodwork at the fabrication shop; defer only final touch up until after installation.

1. Apply one coat of sealer or primer to concealed surfaces of woodwork. Apply two coats to back of paneling and to end-grain surfaces.
2. Apply a vinyl wash coat to woodwork made from closed-grain wood before staining and finishing.
3. After staining, if any, apply paste wood filler to open-grain woods and wipe off excess. Tint filler to match stained wood.

C. Transparent Finish: AWI finish system catalyzed polyurethane.

D. Transparent Finish: WI finish System 5, catalyzed polyurethane.

PART 3 - EXECUTION

3.1 INSTALLATION

A. Before installation, condition woodwork to average prevailing humidity conditions in installation areas.

B. Install woodwork to comply with referenced quality standard for grade specified.

C. Install woodwork level, plumb, true, and straight. Shim as required with concealed shims. Install level and plumb (including tops) to a tolerance of 1/8 inch in 96 inches.

D. Scribe and cut woodwork to fit adjoining work, refinish cut surfaces, and repair damaged finish at cuts.

E. Anchor woodwork to anchors or blocking built in or directly attached to substrates. Fasten with countersunk concealed fasteners and blind nailing. Use fine finishing nails or finishing screws for exposed nailing, countersunk and filled flush with woodwork.

F. Standing and Running Trim: Install with minimum number of joints possible, using full-length pieces (from maximum length of lumber available) to greatest extent possible. Do not use pieces less than 36 inches long, except where shorter single-length pieces are necessary. Scarf running joints and stagger in adjacent and related members.

G. Anchor paneling to supports with concealed panel-hanger clips and by blind nailing on back-up strips, splined-connection strips, and similar associated trim and framing.

H. Stairs: Securely anchor carriages to supporting substrates. Install stairs with treads and risers no more than 1/8 inch from indicated position.

I. Cabinets: Install so doors and drawers are accurately aligned. Adjust hardware to center doors and drawers in openings and to provide unencumbered operation.

1. Fasten wall cabinets through back, near top and bottom, at ends and not more than 16 inches o.c. with No. 10 wafer-head screws sized for 1-inch penetration into wood framing, blocking, or hanging strips.

J. Anchor countertops securely to base units. Seal space between backsplash and wall.

END OF SECTION 064023

SECTION 079200 - JOINT SEALANTS

PART 1 - GENERAL

1.1 SECTION REQUIREMENTS

A. Submittals: Product Data and color Samples.

B. Environmental Limitations: Do not proceed with installation of joint sealants when ambient and substrate temperature conditions are outside limits permitted by joint sealant manufacturer or are below 40 deg F.

PART 2 - PRODUCTS

2.1 JOINT SEALANTS

A. Compatibility: Provide joint sealants, joint fillers, and other related materials that are compatible with one another and with joint substrates under service and application conditions.

B. Sealant for General Exterior Use Where Another Type Is Not Specified:

1. Install per manufacturers specifications..

C. Sealant for Use in Interior Joints in Ceramic Tile and Other Hard Surfaces in Kitchens and Toilet Rooms and Around Plumbing Fixtures:

1. Single-component, mildew-resistant silicone sealant, ASTM C 920, Type S; Grade NS; Class 25; Uses NT, G, A, and O; formulated with fungicide.

D. Sealant for Interior Use at Perimeters of Door and Window Frames:

1. Latex sealant, single-component, nonsag, mildew-resistant, paintable, acrylic-emulsion sealant complying with ASTM C 834.

PART 3 - EXECUTION

3.1 INSTALLATION

A. Comply with manufacturers specifications.Comply with ASTM C 919 for use of joint sealants in acoustical applications.

END OF SECTION 079200

SECTION 081416 - FLUSH WOOD DOORS

PART 1 - GENERAL

1.1 SECTION REQUIREMENTS

A. Submittals: Product data for all doors with information regarding dimensions, ratings, type, and finish.

B. Quality Standard: WDMA I.S.1-A.

C. Fire-Rated Wood Doors: No fire rated doors are included in this project.

D. Forest Certification: Provide doors produced from wood obtained from forests certified by an FSC-accredited certification body to comply with FSC STD-01-001, "FSC Principles and Criteria for Forest Stewardship."

PART 2 - PRODUCTS

2.1 DOOR CONSTRUCTION, GENERAL

A. WDMA I.S.1-A Performance Grade:

1. Standard Duty: Closets and toilet room.

2.2 FLUSH WOOD DOORS

A. Doors for Transparent Finish:

1. Interior Solid-Core Doors: Premium grade, five or seven]-ply, particleboard or structural composite lumber cores.

a. Faces: Grade A plain-sliced red oak.

2.3 LOUVERS

A. Louvers: Wood louvers of same species as door faces.

2.4 FABRICATION AND FINISHING

A. Factory fit doors to suit frame-opening sizes indicated and to comply with clearances specified.

B. Factory machine doors for hardware that is not surface applied. Locate hardware to comply with DHI-WDHS-3.

C. Cut and trim openings to comply with referenced standards.

1. Factory install louvers in prepared openings.

D. Factory finish doors indicated for transparent finish with stain and manufacturer's standard finish complying with WDMA System TR-6, catalyzed polyurethane for grade specified for doors.

PART 3 - EXECUTION

3.1 INSTALLATION

A. Install doors to comply with manufacturer's written instructions, WDMA I.S.1-A and as indicated.

B. Align and fit doors in frames with uniform clearances and bevels. Machine doors for hardware. Seal cut surfaces after fitting and machining.

C. Clearances: As follows, unless otherwise indicated:

1. 1/8 inch at heads, jambs, and between pairs of doors.
2. 1/8 inch from bottom of door to top of decorative floor finish or covering.
3. Comply with NFPA 80 for fire-rated doors.

D. Repair, refinish, or replace factory-finished doors damaged during installation, as directed by Architect.

END OF SECTION 081416

SECTION 085113 - ALUMINUM WINDOWS

PART 1 - GENERAL

1.1 SECTION REQUIREMENTS

A. Submittals: Product Data.

B. Quality Standard: Comply with AAMA/NWWDA 101/I.S.2/NAFS.

1. Provide AAMA- or WDMA-certified aluminum windows with an attached label.

PART 2 - PRODUCTS

2.1 ALUMINUM WINDOWS

A. Products:

1. Milgard, Marvin, Anderson, Pela, Kolbe Kolbe.

B. Window Types:[As indicated on Drawings.][The following types, as indicated on Drawings:]

1. Awning.

C. Performance Class: C.

D. Performance Grade: 40.

E. Condensation-Resistance Factor: 45 per AAMA 1503.

F. Thermal Transmittance: Whole-window U-factor not more than 0.55 Btu/sq. ft. x h x deg F ASTM E 1423.

G. Solar Heat-Gain Coefficient: Whole-window SHGC not more than 0.50 per NFRC 200.

H. Construction: Provide units with a concealed, thermal break.

I. Glaze units with argon-filled, sealed insulating glass, complying with Division 08 Section "Glazing."

J. Finish: Class I, clear anodic finish complying with AAMA 611.

PART 3 - EXECUTION

3.1 INSTALLATION

A. Set units level, plumb, and true to line, without warp or rack of frames and panels. Provide proper support and anchor securely in place.

B. Set sill members in bed of sealant or with gaskets, as indicated, to provide weathertight construction.

C. Adjust operating panels, screens, and hardware to provide a tight fit at contact points and weather stripping for smooth operation and weathertight closure. Lubricate hardware and moving parts.

D. Clean aluminum surfaces and glass immediately after installing windows. Remove nonpermanent labels from glass surfaces.

END OF SECTION 085113

SECTION 085200 - WOOD WINDOWS

PART 1 - GENERAL

1.1 SECTION REQUIREMENTS

A. Submittals: Product Data.

B. Quality Standard: Comply with AAMA/NWWDA 101/I.S.2/NAFS.

1. Provide AAMA- or WDMA-certified wood windows with an attached label.

PART 2 - PRODUCTS

2.1 WOOD WINDOWS

A. Products:

1. Milgard, Marvin Anderson, Pela, Kolbe Kolbe.

B. Provide stain grade] wood windows.

C. Window Types:

1. Casement.

D. Performance Class: C.

E. Performance Grade: 50.

F. Thermal Transmittance: Whole-window U-factor not more than 0.35 Btu/sq. ft. x h x deg F at 15-mph wind velocity and winter temperatures per ASTM E 1423.

G. Solar Heat-Gain Coefficient: Whole-window SHGC not more than 0.40 per NFRC 200.

H. Trim: Provide indicated trim, matching material and finish of frame members.

I. Provide gear-type rotary operators for awning windows.

J. Equip units with charcoal-gray, mesh insect screens on operable sashes.

K. Equip units with removable grilles as indicated, attach to inside face of each lite.

L. Exterior Color: Brown.

M. Glaze units with argon-filled, sealed insulating glass, complying with Division 08 Section "Glazing."

PART 3 - EXECUTION

3.1 INSTALLATION

A. Set units level, plumb, and true to line, without warp or rack of frames and panels. Provide proper support and anchor securely in place.

B. Set sill members in bed of sealant or with gaskets, as indicated, to provide weathertight construction.

C. Adjust operating panels, screens, and hardware to provide a tight fit at contact points and weather stripping for smooth operation and weathertight closure. Lubricate hardware and moving parts.

D. Clean glass and aluminum and wood surfaces immediately after installing windows. Remove nonpermanent labels from glass surfaces.

END OF SECTION 085200

SECTION 087100 - DOOR HARDWARE

PART 1 - GENERAL

1.1 SECTION REQUIREMENTS

A. Submittals: Hardware schedule and keying schedule.

B. Deliver keys to Owner.

C. Fire-Resistance-Rated Assemblies: Provide products that comply with NFPA 80 and are listed and labeled by a testing and inspecting agency acceptable to authorities having jurisdiction for applications indicated. On exit devices provide label indicating "Fire Exit Hardware."

PART 2 - PRODUCTS

2.1 HARDWARE

A. Manufacturers:
   a) Stanley
   b) Schlage
   c) LCN
   d) Pemco
   e) Trimco
   f) NGP

B. Hinges:
   1. 2 hinges for 1-3/8-inch thick wood doors.
   2. 3 hinges for 1-3/4-inch thick doors 90 inches or less in height; 4 hinges for doors more than 90 inches in height.

C. Locksets and Latchsets:

   1. BHMA A156.2, Series 4000, Grade 1 for bored locks and latches.
   2. BHMA A156.3, Grade 1 for exit devices.
   3. BHMA A156.5, Grade 1Grade 2 for auxiliary locks.
   4. BHMA A156.12, Series 5000, Grade 1 for interconnected locks and latches.
   5. BHMA A156.13, Series 1000, Grade 1 for mortise locks and latches.
   6. Lever handle] on locksets and latchsets, verify design.
   7. Provide trim on exit devices matching locksets.

D. Key locks to Owner's existing]master-key system.

   1. Cylinders with five-pin tumblers and removable cores.

.

E. Provide wall stops or floor stops for doors without closers.

F. Provide hardware finishes as follows:

1. Hinges: Matching finish of lockset/latchset.
2. Locksets, Latchsets, and: Match finish in adjacent spaces.
3. Other Hardware: Matching finish of lockset/latchset.

PART 3 - EXECUTION

3.1 INSTALLATION

A. Mount hardware in locations recommended by the Door and Hardware Institute unless otherwise indicated. All hardware to be medium duty commercial grade with style and finish to match that found on main floor of building.

3.2 HARDWARE SCHEDULE

A. Hardware Set No. 1:

1. Hinges. 3 ea. 4.5 x 4.5.
2. Bored passage handleset with keylock .

B. Hardware Set No. 2:

1. Hinges. 3 ea. 4.5 x 4.5.
2. Bored passage handleset with keylock

C. Hardware Set No. 3:

1. Hinges. 3 ea. 4.5 x 4.5.
2. Bored passage handleset with privacy latch.

END OF SECTION 087100

SECTION 088000 - GLAZING

PART 1 - GENERAL

1.1 SECTION REQUIREMENTS

A. Submittals: Product Data.

B. Fire-Resistance-Rated Assemblies: Provide products that comply with NFPA 80 and are listed and labeled by a testing and inspecting agency acceptable to authorities having jurisdiction for applications indicated.

C. Safety Glass: Category II materials complying with testing requirements in 16 CFR 1201 and ANSI Z97.1.

D. Glazing Publications: Comply with published recommendations of glass product manufacturers and organizations below, unless more stringent requirements are indicated.

1. IGMA Publication for Insulating Glass: SIGMA TM-3000, "Glazing Guidelines for Sealed Insulating Glass Units."

E. Insulating-Glass Certification Program: Permanently marked with certification label of Insulating Glass Certification Council.

PART 2 - PRODUCTS

2.1 GLASS

A. Float Glass: ASTM C 1036, Type I, Class 1 clear, and Quality glazing select.

B. Mirror Glass GL-1: ASTM C 1503, Mirror Select Quality, 3.0 mm thick, with edges beveled and polished.

1. Safety Glass for Mirrors: Fully tempered.

2.2 FABRICATED GLASS PRODUCTS

A. Sealed Insulating-Glass Units: Triple pane argon filled dehydrated space.

1. Low-Emissivity Coating: Per manufacturer’s specifications.

PART 3 - EXECUTION

3.1 INSTALLATION

A. Comply with combined recommendations of manufacturers of glass, sealants, gaskets, and other glazing materials, unless more stringent requirements are contained in GANA's "Glazing Manual."

B. Set glass lites in each series with uniform pattern, draw, bow, and similar characteristics.

C. Remove nonpermanent labels, and clean surfaces immediately after installation.

END OF SECTION 088000

SECTION 092900 - GYPSUM BOARD

PART 1 - GENERAL

1.1 SECTION REQUIREMENTS

A. Submittals: Product Data.

B. Fire-Resistance-Rated Assemblies: Provide materials and construction identical to those tested in assemblies per ASTM E 119 by an independent testing and inspecting agency acceptable to authorities having jurisdiction.

C. STC-Rated Assemblies: Provide materials and construction identical to those tested in assemblies per ASTM E 90 and classified per ASTM E 413 by a qualified independent testing and inspecting agency.

PART 2 - PRODUCTS

2.1 PANEL PRODUCTS

A. Provide in maximum lengths available to minimize end-to-end butt joints.

B. Interior Gypsum Board: ASTM C 36/C 36M or ASTM C 1396/C 1396M, in thickness indicated, with manufacturer's standard edges. Regular type unless otherwise indicated.

C. Cementitious Backer Units: ANSI A118.9.

2.2 ACCESSORIES

A. Trim Accessories: ASTM C 1047, formed from galvanized or aluminum-coated steel sheet, rolled zinc, plastic, or paper-faced galvanized-steel sheet. For exterior trim, use accessories formed from hot-dip galvanized-steel sheet, plastic, or rolled zinc.

1. Provide cornerbead at outside corners unless otherwise indicated.
2. Provide LC-bead (J-bead) at exposed panel edges.
3. Provide control joints where indicated.

B. Aluminum Accessories: Extruded-aluminum accessories indicated with manufacturer's standard corrosion-resistant primer.

C. Joint-Treatment Materials: ASTM C 475/C 475M.

1. Joint Tape: Paper unless otherwise recommended by panel manufacturer.
2. Joint Compounds: Drying-type, ready-mixed, all-purpose compounds.

3. Skim Coat: For final coat of Level 5 finish, use high-build interior coating product designed for application by airless sprayer and to be used instead of skim coat to produce Level 5 finish.
4. Cementitious Backer Unit Joint-Treatment Materials: Products recommended by cementitious backer unit manufacturer.

PART 3 - EXECUTION

3.1 INSTALLATION

A. Install gypsum board to comply with ASTM C 840.

1. Isolate gypsum board assemblies from abutting structural and masonry work. Provide edge trim and acoustical sealant.
2. Single-Layer Fastening Methods: Fasten gypsum panels to supports with screws.
3. Multilayer Fastening Methods: Fasten existing base layers where not properly attached with screws.

B. Install cementitious backer units to comply with ANSI A108.11.

C. Fire-Resistance-Rated Assemblies: Comply with requirements of listed assemblies.

D. Finishing Gypsum Board: ASTM C 840.

1. At concealed areas, unless a higher level of finish is required for fire-resistance-rated assemblies, provide Level 1 finish: Embed tape at joints.
2. At substrates for tile, provide Level 2 finish: Embed tape and apply separate first coat of joint compound to tape, fasteners, and trim flanges.
3. Unless otherwise indicated, provide Level 4 finish: Embed tape and apply separate first, fill, and finish coats of joint compound to tape, fasteners, and trim flanges.
4. Where indicated, provide Level 5 finish: Embed tape and apply separate first, fill, and finish coats of joint compound to tape, fasteners, and trim flanges. Apply skim coat to entire surface.

E. Glass-Mat, Water-Resistant Backing Panels: Finish according to manufacturer's written instructions.

F. Cementitious Backer Units: Finish according to manufacturer's written instructions.

G. Texture Finish Application: Mix and apply finish using powered spray equipment, to produce a uniform texture free of starved spots or other evidence of thin application or of application patterns.

END OF SECTION 092900

SECTION 093000 - TILING

PART 1 - GENERAL

1.1 SECTION REQUIREMENTS

A. Submittals: Product Data for tile and installation materials and Samples for tile.

B. Floor Tiles: Static coefficient of friction not less than 0.6, per ASTM C 1028.

PART 2 - PRODUCTS

2.1 CERAMIC TILE

A. Ceramic tile that complies with Standard grade requirements in ANSI A137.1, "Specifications for Ceramic Tile."

B. Ceramic Floor Tile Cushion-edged vitreous or impervious natural clay or porcelain tile.

1. Products:

a. ‘Endurance’ by Daltile

b. Thompson

c. American Olean

2. Surface: Slip resistant.
3. Module Size: 6 by 6 inch.
4. Color: Submit samples.

C. Glazed Wall Tile: Cushion-edged, flat tile.

1. Products:

a. Daltile

b. Thompson

c. American Olean

2. Module Size: 4-1/4 by 4-1/4 inches
3. Color: Submit sample.
4. Finish: Mat, opaque glaze.
5. Tiles mounted, by manufacturer's standard method, into sheets and grouted with silicone rubber grout complying with ANSI A118.6.

D. Ceramic Mosaic Trim Units: Matching characteristics of and coordinated with sizes and coursing of adjoining flat tile.

1. Wainscot Cap for Thin-Set Mortar Installations: Surface bullnose.
2. External Corners for Thin-Set Mortar Installations: Surface bullnose.
3. Internal Corners: Cove.

E. Glazed Wall Tile Trim Units: Matching characteristics of adjoining flat tile and coordinated with sizes and coursing of adjoining flat tile where applicable.

1. Wainscot Cap for Thin-Set Mortar Installations: Surface bullnose, module size matching wall tile.

2.2 INSTALLATION MATERIALS

A. VOC Limit for Adhesives and Fluid-Applied Waterproofing Membranes: 65 g/L when calculated according to 40 CFR 59, Subpart D (EPA Method 24).

B. Waterproofing Membranes for Thin-Set Installations: ANSI A118.10, [fabric-faced polymer sheet product] [fabric-reinforced modified bituminous product] [fabric-reinforced liquid-latex product] [unreinforced liquid-latex product] [urethane waterproofing and adhesive] and as follows:

1. Products:

a. Per tile manufacturers specifications.

C. Setting and Grouting Materials: Comply with material standards in ANSI's "Specifications for the Installation of Ceramic Tile" that apply to materials and methods indicated.

1. Thin-Set Mortar Type:

a. Per tile manufacturers specifications.

2. Grout Type:

a. Per tile manufacturers specifications.

3. Grout Color: Submit samples

PART 3 - EXECUTION

3.1 INSTALLATION

A. Comply with tile installation standards in ANSI's "Specifications for the Installation of Ceramic Tile" that apply to materials and methods indicated.

1. For installations indicated below, follow procedures in ANSI's "Specifications for the Installation of Ceramic Tile" for providing 95 percent mortar coverage.
   a. Tile floors in wet areas.

B. Comply with TCA's "Handbook for Ceramic Tile Installation."

C. Floor Tile Installation Method(s):

1. Over Wood Subfloors: TCA thin-set mortar bonded to cementitious backer units on wood.
2. Over Waterproof Membranes: TCA [F121 (cement mortar bed over waterproof

D. Wall Tile Installation Method(s):

1. Over Cementitious Backer Units: TCA thin-set mortar on cementitious backer units.

E. At showers, tubs, and where indicated, provide cementitious backer units and treat joints to comply with ANSI A108.11.

F. Do not install tile over waterproofing until waterproofing has cured and been tested to determine that it is watertight.

G. Lay tile in grid pattern, unless otherwise indicated. Align joints where adjoining tiles on floor, base, walls, and trim are the same size.

H. Perform cutting and drilling of tile without marring visible surfaces. Carefully grind cut edges of tile abutting trim, finish, or built-in items for straight aligned joints. Fit tile closely to electrical outlets, piping, fixtures, and other penetrations so plates, collars, or covers overlap tile.

END OF SECTION 093000

SECTION 096519 - RESILIENT TILE FLOORING

PART 1 - GENERAL

1.1 SECTION REQUIREMENTS

A. Submittals: Product Data and Samples.

B. Extra Materials: Deliver to Owner 5% additional, of each type and color of resilient floor tile installed.

PART 2 - PRODUCTS

2.1 VINYL COMPOSITION FLOOR TILE.

A. Products:

1. Armstrong
2. Manington
3. Johnsonite
4. Roppe Corp.
5. Tarkett
6. Burke

B. Color and Pattern: submit samples

C. ASTM F 1066, Class 1 solid-color tile.

D. Wearing Surface: Smooth.

E. Thickness: 0.125 inch .

F. Size: 12 by 12 inches .

2.2 LINOLEUM FLOOR TILE

A. Products:

1. Marmoleum Global 3 by Forbo

B. Color and Pattern: submit samples.

C. Tile: Solidified mixture of linoleum cement binder (linseed oil and pine, fossil, or other resins or rosins, or equivalent oxidized oleoresinous binder) and ground cork, wood flour, mineral fillers, and pigments bonded to a fibrous or other suitable backing so that backing is partially embedded in mixture. Patterns and colors extend through entire wear-layer thickness.

1. Nominal Tile Size: Manufacturer's standard.

D. Thickness: refer to product literature.

2.3 INSTALLATION ACCESSORIES

A. Trowelable Leveling and Patching Compounds: Latex-modified, portland cement- or blended hydraulic cement-based formulation provided or approved by flooring manufacturer for applications indicated.

B. Adhesives: Water-resistant type recommended by manufacturer to suit resilient products and substrate conditions indicated.

C. Metal Edge Strips: Extruded aluminum in maximum available lengths to minimize joints.

PART 3 - EXECUTION

3.1 INSTALLATION

A. Prepare concrete substrates according to ASTM F 710. Verify that substrates are dry and free of curing compounds, sealers, and hardeners.

B. Lay out tiles so tile widths at opposite edges of room are equal and are at least one-half of a tile.

C. Match tiles for color and pattern by selecting tiles from cartons in same sequence as manufactured and packaged. Lay tiles as recommended by manufacturer or specified by architect.

END OF SECTION 096519

SECTION 096813 - TILE CARPETING

PART 1 - GENERAL

1.1 SECTION REQUIREMENTS

A. Submittals: Product Data and Samples.

B. Extra Materials: Deliver to Owner carpet tiles equal to 5 percent of each type and color carpet tile installed, packaged with protective covering for storage.

PART 2 - PRODUCTS

2.1 CARPET TILE see floor plan.

A. Products:

1. Shaw
2. Mannington
3. Mohawk Industries
4. Flor

B. Fiber Content: 100 percent nylon.

C. Face Construction: Cut pile.

D. Density: 75 oz./cu. yd.

E. Pile Thickness: .095 inches for finished carpet tile per ASTM D 6859.

F. Primary Backing: Manufacturer's standard material.

G. Secondary Backing: Manufacturer's standard material.

H. Antimicrobial: Yes

I. Size: per manufacturers specs.

J. Critical Radiant Flux Classification: Not less than [0.45 W/sq. cm] [0.22 W/sq. cm] per ASTM E 648.

PART 3 - EXECUTION

3.1 INSTALLATION

A. Comply with CRI 104.

B. Installation Method: As recommended by manufacturer.

END OF SECTION 096813

SECTION 099100 - PAINTING

PART 1 - GENERAL

1.1 SECTION REQUIREMENTS

A. Summary: Paint exposed surfaces, new and existing, unless otherwise indicated.

1. Paint the back side of access panels.
2. Color-code mechanical piping in accessible ceiling spaces.
3. Do not paint prefinished items, items with an integral finish, operating parts, and labels unless otherwise indicated.

B. Submittals:

1. Product Data.
2. Samples.

C. MPI Standards:

1. Products: Complying with MPI standards indicated and listed in "MPI Approved Products List."
2. Preparation and Workmanship: Comply with requirements in "MPI Architectural Painting Specification Manual" for products and paint systems indicated.

D. Mockups: Full-coat finish Sample of each type of coating, color, and substrate, applied where directed.

E. Extra Materials: Deliver to Owner 1 quart of each color and type of finish coat paint used on Project, in containers, properly labeled and sealed

PART 2 - PRODUCTS

2.1 PAINT

A. Products:

1. Benjamin Moore
2. Sherwin Williams
3. William Zinsser
4. PPG
5. Valspar

B. Material Compatibility: Provide materials that are compatible with one another and with substrates.

1. For each coat in a paint system, provide products recommended in writing by manufacturers of topcoat for use in paint system and on substrate indicated.

C. Colors: As selected.

PART 3 - EXECUTION

3.1 PREPARATION

A. Remove hardware, lighting fixtures, and similar items that are not to be painted. Mask items that cannot be removed. Reinstall items in each area after painting is complete.

B. Clean and prepare surfaces in an area before beginning painting in that area. Schedule painting so cleaning operations will not damage newly painted surfaces.

3.2 APPLICATION

A. Apply paints according to manufacturer's written instructions.

1. Use brushes only for exterior painting and where the use of other applicators is not practical.
2. Use rollers for finish coat on interior walls and ceilings.

B. Apply paints to produce surface films without cloudiness, spotting, holidays, laps, brush marks, roller tracking, runs, sags, ropiness, or other surface imperfections. Cut in sharp lines and color breaks.

1. If undercoats or other conditions show through topcoat, apply additional coats until cured film has a uniform paint finish, color, and appearance.

C. Apply stains and transparent finishes to produce surface films without color irregularity, cloudiness, holidays, lap marks, brush marks, runs, ropiness, or other imperfections. Use multiple coats to produce a smooth surface film of even luster.

3.3 EXTERIOR PAINT APPLICATION SCHEDULE

A. Dressed Lumber: Including architectural woodwork.

1. Semigloss Latex: Two coats over primer: MPI EXT 6.3L.
2. Solid-Color Latex Stain: Two coats over alkyd primer: MPI EXT 6.3K.

B. Wood Panel Products: Including plywood siding.

1. Semigloss Latex: Two coats over primer: MPI EXT 6.4K.

3.4 INTERIOR PAINT APPLICATION SCHEDULE.

A. Gypsum Board:

1. Satin Latex: Two coats over primer/sealer: MPI INT 9.2A unless noted otherwise..

B. Plaster:

C. Spray-Textured Ceilings:

1. Satin Latex: Two coats over primer/sealer: MPI INT 9.2A unless noted otherwise.

END OF SECTION 099100

SECTION 221116 - DOMESTIC WATER PIPING

PART 1 - GENERAL

1.1 SECTION REQUIREMENTS

A. Performance Requirements: Provide components and installation capable of producing domestic water piping systems with 80 psig unless otherwise indicated.

B. Comply with NSF 14, "Plastics Piping System Components and Related Materials," for plastic piping and components.

C. Comply with NSF 61, "Drinking Water System Components - Health Effects; Sections 1 through 9."

PART 2 - PRODUCTS

2.1 PIPE AND FITTINGS

A. Steel Piping: ASTM A 53/A 53M, Schedule 40, galvanized-steel pipe, with ASME B16.4, Class 125, galvanized, standard pattern gray-iron, threaded fittings.

B. Soft Copper Tubing: ASTM B 88, Types K and L,water tube, annealed temper with copper pressure fittings, cast-copper-alloy or wrought-copper, solder-joint fittings. Furnish wrought-copper fittings if indicated.

1. Joining Materials: Use ASTM B 813, water-flushable, lead-free flux; ASTM B 32, lead-free-alloy solder.

C. Hard Copper Tubing: ASTM B 88, Types L and M, water tube, drawn temper with wrought-copper, solder-joint fittings. Furnish wrought-copper fittings if indicated.

1. Copper Unions: Cast-copper-alloy, hexagonal-stock body, with ball-and-socket, metal-to-metal seating surfaces and solder-joint or threaded ends.
2. Joining Materials: Use ASTM B 813, water-flushable, lead-free flux; ASTM B 32, lead-free-alloy solder.

D. CPVC Piping: ASTM F 441/F 441M, Schedule 40 pipe with ASTM F 438, CPVC Schedule 40 socket-type fittings.

E. PEX Piping: ASTM F 877, SDR 9 PEX tube and ASTM F 1807, metal insert-type fittings with copper crimp rings.

1. Manifold: ASTM F 877, with a valve for each outlet.

F. PVC Schedule 40 Pipe: ASTM D 1785.

1. PVC Schedule 40 Fittings: ASTM D 2466, socket type.

PART 3 - EXECUTION

3.1 INSTALLATIONS

A. Comply with requirements in Division 22 Section "Common Work Results for Plumbing" for basic piping installation requirements.

B. Install wall penetration system at each service pipe penetration through foundation wall. Make installation watertight. Comply with requirements in Division 22 Section "Common Work Results for Plumbing" for wall penetration systems.

C. Install shutoff valve, hose-end drain valve, strainer, pressure gage, and test tee with valve, inside the building at each domestic water service entrance. Comply with requirements in Division 22 Section "Common Work Results for Plumbing" for drain valves, strainers, and pressure gages.

D. Install domestic water piping without pitch for horizontal piping and plumb for vertical piping.

E. Rough-in domestic water piping for water-meter installation according to utility company's requirements.

F. Comply with requirements in Division 22 Section "Common Work Results for Plumbing" for basic piping joint construction.

1. Soldered Joints: Comply with procedures in ASTM B 828 unless otherwise indicated.

G. Comply with requirements in Division 22 Section "Common Work Results for Plumbing" for pipe hanger and support devices.

H. Support vertical piping at each floor.

3.2 INSPECTING AND CLEANING

A. Inspect and test piping systems as follows:

1. Fill domestic water piping. Check components to determine that they are not air bound and that piping is full of water.
2. Test for leaks and defects in new piping and parts of existing piping that have been altered, extended, or repaired.

B. Clean and disinfect water distribution piping by filling system with water/chlorine solution with at least 50 ppm of chlorine. Isolate with valves and allow to stand for 24 hours. Flush system with clean, potable water until no chlorine is in water coming from system after the standing time.

3.3 PIPING SCHEDULE

A. Aboveground Distribution Piping: Type M, hard copper tubing, PEX piping or Schedule 40 PVC piping.

3.4 VALVE SCHEDULE

A. Contractor to provide drawings that indicate valve types to be used.

B. Install gate valves close to main on each branch and riser serving two or more plumbing fixtures or equipment connections and where indicated.

C. Install gate or ball valves on inlet to each plumbing equipment item, on each supply to each plumbing fixture not having stops on supplies, and elsewhere as indicated.

D. CPVC and PVC ball, butterfly, and check valves may be used in matching piping materials.

E. Install drain valve at base of each riser, at low points of horizontal runs, and where required to drain water distribution piping system.

F. Install swing check valve on discharge side of each pump and elsewhere as indicated.

G. Install ball valves in each hot-water circulating loop and discharge side of each pump.

END OF SECTION 221116

SECTION 221316 - SANITARY WASTE AND VENT PIPING

PART 1 - GENERAL

1.1 SECTION REQUIREMENTS

A. Minimum Pressure Requirement for Soil, Waste, and Vent: 10-foot head of water.

B. Comply with NSF 14, "Plastic Piping Components and Related Materials," for plastic piping components.

PART 2 - PRODUCTS

2.1 PIPES AND FITTINGS

A. Copper Drainage Tube and Fittings: ASTM B 306, Type DWV drawn temper with copper, Type DWV drainage fittings.

B. Hub-and-Spigot Cast-Iron Soil Pipe and Fittings: ASTM A 74, Service class; ASTM C 564 rubber gaskets.

C. Hubless Cast-Iron Soil Pipe and Fittings: ASTM A 888 or CISPI 301, with ASTM C 1277 shielded couplings.

D. PVC Plastic, DWV Pipe and Fittings: ASTM D 2665, Schedule 40, plain ends with PVC socket-type, DWV pipe fittings.

PART 3 - EXECUTION

3.1 PIPING INSTALLATION

A. Comply with requirements in Division 22 Section "Common Work Results for Plumbing" for basic piping installation requirements.

B. Install cast-iron soil piping according to CISPI's "Cast Iron Soil Pipe and Fittings Handbook," Chapter IV, "Installation of Cast Iron Soil Pipe and Fittings."

C. Install wall penetration system at each pipe penetration through foundation wall. Make installation watertight. Comply with requirements in Division 22 Section "Common Work Results for Plumbing" for wall penetration systems.

1. Sleeves are not required for cast-iron soil piping passing through concrete slabs-on-grade if slab is without membrane waterproofing.

D. Make changes in direction for soil and waste drainage and vent piping using appropriate branches, bends, and long-sweep bends. Sanitary tees and short-sweep 1/4 bends may be used on vertical stacks if change in direction of flow is from horizontal to vertical. Use long-turn, double Y-branch and 1/8-bend fittings if 2 fixtures are installed back to back or side by side with common drain pipe. Straight tees, elbows, and crosses may be used on vent lines. Do not change direction of flow more than 90 degrees. Use proper size of standard increasers and reducers if pipes of different sizes are connected. Reducing size of drainage piping in direction of flow is prohibited.

E. Lay buried building drainage piping beginning at low point of each system. Install true to grades and alignment indicated, with unbroken continuity of invert. Place hub ends of piping upstream. Install required gaskets according to manufacturer's written instructions for use of lubricants, cements, and other installation requirements. Maintain swab in piping and pull past each joint as completed.

F. Install soil and waste drainage and vent piping at the following minimum slopes, unless otherwise indicated:

1. Building Sanitary Drain: 2 percent downward in direction of flow for piping NPS 3 and smaller; 1 percent downward in direction of flow for piping NPS 4 and larger.
2. Horizontal Sanitary Drainage Piping: 2 percent downward in direction of flow.
3. Vent Piping: 1 percent down toward vertical fixture vent or toward vent stack.

G. Install PVC soil and waste drainage and vent piping according to ASTM D 2665.

H. Do not enclose, cover, or put piping into operation until it is inspected and approved by authorities having jurisdiction.

I. Soldered Joints: Use ASTM B 813, water-flushable, lead-free flux; ASTM B 32, lead-free-alloy solder; and ASTM B 828 procedure unless otherwise indicated.

3.2 PIPE SCHEDULE

A. Aboveground Applications: PVC plastic, DWV pipe and fittings with solvent-cemented joints or copper drainage tube and fittings with soldered joints.

END OF SECTION 221316

SECTION 224000 - PLUMBING FIXTURES

PART 1 - GENERAL

1.1 SECTION REQUIREMENTS

A. Submittals: Product Data for each type of plumbing fixture, including trim, fittings, accessories, appliances, appurtenances, equipment, and supports.

B. Regulatory Requirements: Comply with requirements in Public Law 102-486, "Energy Policy Act," about water flow and consumption rates for plumbing fixtures.

C. NSF Standard: Comply with NSF 61, "Drinking Water System Components - Health Effects," for fixture materials that will be in contact with potable water.

PART 2 - PRODUCTS

2.1 WATER CLOSET

A. Vitreous-China Water Closet: Round front, siphon-jet type, floor-mounted, outlet with gravity-type tank and flushometer valve.

1. Basis-of-Design Product: Kohler “Wellworth Classic” or comparable product by one of the following:

a. American Standard

b. Toto

c. Eljier

d. Sloan

2. Design Consumption: 1 gal./flush.

B. Toilet Seat: Provide same make as toilet.

C. Flushometer Valve: Brass body, brass or copper pipe or tubing inlet with wall flange and tailpiece with spud, screwdriver check stop, and vacuum breaker. Polished, chrome-plated, exposed metal parts. Consumption: 1.0 gal./flush.

1. Basis-of-Design Product: as provided with toilet.

D. Fixture Support: Combination carrier designed for standard mounting height. Include additional faceplate and coupling for water closet at wide pipe space. Compact-type carrier for back-to-back water-closet installation is prohibited.

2.2 URINAL

A. Vitreous-China Urinal: Wall-mounting, back-outlet, siphon-jet type.

1. Basis-of-Design Product: Kohler “Bardon” or comparable product by one of the following:

a. American Standard

b. Toto

c. Eljier

d. Sloan

2. Design Consumption: 1 gal./flush.

B. Flushometer Valve: Cast-brass body, brass or copper pipe or tubing inlet with wall flange and tailpiece with spud, screwdriver check stop, and vacuum breaker. Polished, chrome-plated, exposed metal parts. Consumption: 1.0 gal./flush.

1. Basis-of-Design Product: Sloan manual or comparable product by one of the following:

a. Provide manufacturers incormation

C. Fixture Support: as provided with specified fixture.

2.3 LAVATORY

A. Vitreous-China Lavatory: Wall mounting, .

1. Basis-of-Design Product: Kohler “Soho” or comparable product by one of the following:

a. American Standard

b. Toto

c. Eljier

d. Sloan

B. Faucets: ASME A112.18.1; solid brass.

1. Basis-of-Design Product: Kohler “Triton” K-7307-KE-CP or comparable product by one of the following:

a. American Standard

b. Toto

c. Eljier

d. Sloan

C. Drain: Pop up with NPS 1-1/4 tailpiece, included with faucet.

D. Trap: Chrome-plated with slip-joint inlet and wall flange.

E. Fixture Support: Hanger plate for wall-mounting, lavatory-type fixture.
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2.4 SINK

A. Stainless Steel Sink: Counter-mounting, self-rimming one compartment.

1. Basis-of-Design Product: Kohler “Staccato” or comparable product by one of the following:

a. Provide manufacturers specifications.

B. Faucet: Solid brass.

1. Basis-of-Design Product: Kohler “Coralais” single hole or comparable product by one of the following:

a. Provide manufacturers specifications.

2.5 INSTALLATIONS

A. Install fitting insulation kits on fixtures for people with disabilities.

B. Install fixtures with flanges and gasket seals.

C. Install flushometer valves for accessible water closets and urinals with handle mounted on wide side of compartment. Install other actuators in locations that are easy for people with disabilities to reach.

D. Install tanks for accessible, tank-type water closets with lever handle mounted on wide side of compartment.

E. Fasten wall-hanging plumbing fixtures securely to supports attached to building substrate when supports are specified, and to building wall construction where no support is indicated.

F. Fasten floor-mounted fixtures to substrate. Fasten fixtures having holes for securing fixture to wall construction, to reinforcement built into walls.

G. Fasten wall-mounted fittings to reinforcement built into walls.

H. Fasten counter-mounting plumbing fixtures to casework.

I. Secure supplies to supports or substrate within pipe space behind fixture.

J. Set shower receptors and mop basins in leveling bed of cement grout.

K. Install individual supply inlets, supply stops, supply risers, and tubular brass traps with cleanouts at fixture.

L. Install water-supply stop valves in accessible locations.

M. Install traps on fixture outlets. Omit traps on fixtures having integral traps. Omit traps on indirect wastes unless otherwise indicated.

N. Install disposers in sink outlets. Install switch where indicated, or in wall adjacent to sink if location is not indicated.

O. Install hot-water dispensers in back top surface of sink or in counter with spout over sink.

P. Install escutcheons at wall, floor, and ceiling penetrations in exposed, finished locations and within cabinets and millwork. Use deep-pattern escutcheons where required to conceal protruding pipe fittings.

Q. Seal joints between fixtures and walls, floors, and counters using sanitary-type, one-part, mildew-resistant, silicone sealant. Match sealant color to fixture color.

R. Install piping connections between plumbing fixtures and piping systems and plumbing equipment. Install insulation on supplies and drains of fixtures for people with disabilities.

S. Ground equipment.

END OF SECTION 224000

SECTION 262726 - WIRING DEVICES

PART 1 - GENERAL

1.1 SECTION REQUIREMENTS

A. Submittals: Product Data.

B. Quality Assurance: Wiring devices shall be listed and labeled as defined in NFPA 70, Article 100, by a testing agency acceptable to authorities having jurisdiction, and marked for intended use.

C. Comply with NFPA 70.

PART 2 - PRODUCTS

2.1 DEVICES

A. Convenience Receptacles: NEMA WD 1, NEMA WD 6, Configuration 5-20R, and UL 498.

1. Products:

a. Arro-Hart

b. Bryant Electric

c. Eagle

d. General Electric

e. Harvey Hubbell

f. Leviton

g. Pass and Seymoour

h. Square D

B. Duplex GFCI Convenience Receptacles: 125 V, 20 A, straight blade, feed through type. NEMA WD 1, NEMA WD 6, UL 498, and UL 943, Class A, and include indicator light that is lighted when device is tripped.

1. Products: same as convenience receptacles.

C. Duplex TVSS Convenience Receptacles: Straight blade, 125 V, 20 A; NEMA WD 6 Configuration 5-20R.

1. Products: same as convenience receptacles.
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D. Combination Outlet: All data/phone outlets to be provided with empty box with pull wire.

E. Wall Plates, Finished Areas: Satin-finish stainless steel, fastened with metal screws having heads matching plate color.

F. Multioutlet Assemblies: Components produced by a single manufacturer designed for use as a complete, matching assembly of raceways and receptacles. Metal, with manufacturer's standard finish.

G. Finishes:

1. Wiring Devices Connected to Normal Power System: As selected by Architect unless otherwise indicated or required by NFPA 70 or device listing.

PART 3 - EXECUTION

3.1 INSTALLATION

A. Comply with NECA 1, including the mounting heights listed in that standard, unless otherwise noted.

B. Install devices and assemblies plumb, level, and square with building lines.

C. When mounting into metal boxes, remove the fiber or plastic washers used to hold device mounting screws in yokes, allowing metal-to-metal contact.

D. Install unshared neutral conductors on line and load side of dimmers.

E. Mount devices flush, with long dimension vertical, and grounding terminal of receptacles on top unless otherwise indicated. Group adjacent devices under single, multigang wall plates.

END OF SECTION 262726

SECTION 265000 - LIGHTING

PART 1 - GENERAL

1.1 SECTION REQUIREMENTS

A. Submittals: Product Data for each luminaire, including lamps.

B. Fixtures, Emergency Lighting Units, and Accessories: Listed and labeled as defined in NFPA 70, Article 100, by a testing agency acceptable to authorities having jurisdiction, and marked for intended use.

C. Coordinate ceiling-mounted luminaires with ceiling construction, mechanical work, and security and fire-prevention features mounted in ceiling space and on ceiling.

PART 2 - PRODUCTS

2.1 EXIT SIGNS

A. Internally Lighted Signs: Comply with UL 924; for sign colors and lettering size, comply with authorities having jurisdiction

1. Lamps for AC Operation: Fluorescent, 2 for each fixture, 20,000 hours of rated lamp life.
2. Lamps for AC Operation: Light emitting diodes, 70,000 hours minimum of rated lamp life.

2.2 EMERGENCY LIGHTING UNITS

A. Description: Self-contained units complying with UL 924.

1. Battery: Sealed, maintenance-free, lead-acid type.
2. Charger: Fully automatic, solid-state type with sealed transfer relay.
3. Test Push Button: Push-to-test type, in unit housing, simulates loss of normal power and demonstrates unit operability.
4. LED Indicator Light: Indicates normal power on. Normal glow indicates trickle charge; bright glow indicates charging at end of discharge cycle.

2.3 REQUIREMENTS FOR INDIVIDUAL LIGHTING FIXTURES

A. Fixture Linear Fluorescents

1. Basis-of-Design Product: Subject to compliance with requirements, provide Focal Point ‘verve 4’ fixtures with radial blade in white finish with occupancy sensors. Install double switching as indicated on drawing 2/A3.

2. Basis-of-Design Product: Provide and install 4’ surface mount fluorescent strip fixtures with double T8 lamps and protective diffusing lens. Install switching as indicated on drawing 2/A3.

B. Compact Fluorescents

1. Basis-of-Design Product: 6” diameter, 26W dual lamp fixture with electronic, rapid start ballast. Provide light diffusing lens and aluminum reflector type fixture for existing construction application.

PART 3 - EXEC

3.1 INSTALLATION

A. Set units level, plumb, and square with ceiling and walls, and secure.

B. Lamping: Where specific lamp designations are not indicated, lamp units according to manufacturer's written instructions.

END OF SECTION 265000